

## Amendments to the Claims

*Sub E1*

22. (currently amended): A semiconductor processing method comprising:

- forming an antireflective material layer over a substrate;
- annealing at least a portion of the antireflective material layer at a temperature of at least from about 550°C to about 1050°C;
- forming a layer of photoresist over the annealed antireflective material layer;
- patterning the layer of photoresist; and
- removing a portion of the antireflective material layer unmasked by the patterned layer of photoresist.

23. (original): The method of claim 22 wherein the layer of photoresist is formed against the antireflective material layer.

*D1*

24. (currently amended): A semiconductor processing method comprising:

- forming an antireflective material layer over a substrate;
- annealing the antireflective material layer at a temperature of at least from about 550°C to about 1050°C;
- forming a layer of photoresist over the annealed antireflective material layer; and
- exposing portions of the layer of photoresist to radiation waves, some of the radiation waves being attenuated by the antireflective material during the exposing.

25. (original): The method of claim 24 wherein the attenuation comprises absorbing radiation waves with the antireflective coating.

26. (original): The method of claim 24 wherein the layer of photoresist is formed against the antireflective material layer.

27. (original): The method of claim 24 further comprising exposing the antireflective material layer to a nitrogen-containing atmosphere during the annealing.

28. (currently amended): A semiconductor processing method comprising;  
forming a solid antireflective material layer over a substrate;  
altering optical properties of the antireflective material layer by annealing the antireflective material layer at a temperature ~~greater than or equal to~~ within the range of from about 550°C to about 1050°C;

*D1 Cont.* after altering the optical properties, forming a layer of photoresist over the antireflective material layer; and  
exposing portions of the layer of photoresist to radiation waves and absorbing some of the radiation waves with the antireflective material.

29. (original): The method of claim 28 further comprising exposing the antireflective material layer to an atmosphere during the altering, the atmosphere comprising at least one of nitrogen and argon.

30. (original): The method of claim 28 wherein the optical properties which are altered include at least one of a refractive index coefficient or an extinction coefficient.

31. (previously added): The method of claim 28 further comprising:  
chemical vapor depositing the antireflective material layer onto the substrate at a  
temperature of from about 300°C to about 400°C; and  
selectively removing either the exposed or unexposed portions of the photoresist  
while leaving the other of the exposed and unexposed portions over the substrate.

41. (previously added): The method of claim 22 wherein the annealing comprises  
annealing at a temperature of from about 800°C to about 1050°C.

42. (previously added): The method of claim 22 wherein the annealing comprises  
altering optical properties of the antireflective material layer.

43. (previously added): The method of claim 22 wherein the antireflective material  
layer comprises oxygen, nitrogen and silicon.

44. (previously added): The method of claim 24 wherein the annealing comprises  
annealing at a temperature of from about 800°C to about 1050°C.

45. (previously added): The method of claim 24 wherein the annealing comprises  
altering optical properties of the antireflective material layer.

46. (previously added): The method of claim 24 wherein the antireflective material layer comprises oxygen, nitrogen and silicon.

47. (previously added): The method of claim 28 wherein the altering comprises annealing at a temperature of from about 800°C to about 1050°C.

48. (previously added): The method of claim 28 wherein the antireflective material layer comprises oxygen, nitrogen and silicon.

49. (new): A semiconductor processing method comprising:  
forming an antireflective material layer over a substrate;  
annealing at least a portion of the antireflective material layer at a temperature of at least 1050°C;  
forming a layer of photoresist over the annealed antireflective material layer;  
patterning the layer of photoresist; and  
removing a portion of the antireflective material layer unmasked by the patterned layer of photoresist.

50. (new): The method of claim 49 wherein the layer of photoresist is formed against the antireflective material layer.

51. (new): A semiconductor processing method comprising:  
forming an antireflective material layer over a substrate;

annealing the antireflective material layer at a temperature of at least 1050°C;  
forming a layer of photoresist over the annealed antireflective material layer; and  
exposing portions of the layer of photoresist to radiation waves, some of the  
radiation waves being attenuated by the antireflective material during the exposing.

52. (new): The method of claim 51 wherein the attenuation comprises absorbing  
radiation waves with the antireflective coating.

53. (new): The method of claim 51 wherein the layer of photoresist is formed  
against the antireflective material layer.

54. (new): The method of claim 51 further comprising exposing the antireflective  
material layer to a nitrogen-containing atmosphere during the annealing.

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cont.

55. (new): A semiconductor processing method comprising;  
forming a solid antireflective material layer over a substrate;  
altering optical properties of the antireflective material layer by annealing the  
antireflective material layer at a temperature greater than or equal to about 1050°C;  
after altering the optical properties, forming a layer of photoresist over the  
antireflective material layer; and  
exposing portions of the layer of photoresist to radiation waves and absorbing some  
of the radiation waves with the antireflective material.

56. (new): The method of claim 55 further comprising exposing the antireflective material layer to an atmosphere during the altering, the atmosphere comprising at least one of nitrogen and argon.

57. (new): The method of claim 55 wherein the optical properties which are altered include at least one of a refractive index coefficient or an extinction coefficient.

58. (new): The method of claim 49 wherein the annealing alters optical properties of the antireflective material layer.

59. (new): The method of claim 49 wherein the antireflective material layer comprises oxygen, nitrogen and silicon.

D2  
cont. 60. (new): The method of claim 51 wherein the annealing alters optical properties of the antireflective material layer.

61. (new): The method of claim 51 wherein the antireflective material layer comprises oxygen, nitrogen and silicon.

62. (new): The method of claim 55 wherein the antireflective material layer comprises oxygen, nitrogen and silicon